03060106-060

(Horse Creek)

General Description

Watershed 03060106-060 is located in Edgefield and Aiken Counties and consists primarily of ***Horse Creek*** and its tributaries. The watershed occupies 103,305 acres of the Sand Hills and Upper Coastal Plain regions of South Carolina. The predominant soil types consist of an association of the Lakeland-Fuquay-Troup series. The erodibility of the soil (K) averages 0.12, and the slope of the terrain averages 5%, with a range of 2-25%. Land use/land cover in the watershed includes: 62.7% forested land, 14.6% barren land, 10.0% urban land, 9.8% agricultural land, 1.5% forested wetland, 1.2% water, and 0.2% nonforested wetland.

Horse Creek accepts drainage from Long Branch, Little Horse Creek (Bear Branch, Gopher Branch, Beaver Branch), and Camp Branch before flowing through Vaucluse Pond. Horse Creek then accepts drainage from Good Spring Branch and Sage Mill Branch and flows through Flat Rock Pond. Bridge Creek (Bridge Creek Pond, Graniteville Pond) and the Sand River enter Horse Creek next before it flows through Langley Pond. Little Horse Creek accepts drainage from Simons Lake, Red Hill Branch (Eggleston Lake), Arrowhead Lakes, Antique Lake, Horsepen Creek, Hightower Creek (Ascauga Lake), Franklin Branch, Sudlow Lake, and Mims Branch. Little Horse Creek then flows through Clearwater Lake before merging with Horse Creek downstream of Langley Pond. Storm Branch drains into Horse Creek downstream of the confluence. Horse Creek drains into the Savannah River. There are a total of 200.6 stream miles and 1,148.6 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
CL-067	W	FW	VAUCLUSE POND IN FOREBAY NEAR DAM
SV-686	W	FW	FLAT ROCK POND IN FOREBAY NEAR DAM
SV-722	W/BIO	FW	GRANITEVILLE POND #2 IN FOREBAY NEAR DAM
SV-329	P	FW	HORSE CREEK AT ASCAUGA LAKE RD (S-02-33) IN GRANITEVILLE
SV-071	P	FW	HORSE CREEK AT S-02-104, 0.6 MI SW GRANITEVILLE
SV-069	P	FW	SAND RIVER AT OLD US 1, 1.2 MI SE WARRENVILLE
CL-069	W/BIO	FW	LANGLEY POND IN FOREBAY NEAR DAM
SV-096	P	FW	HORSE CREEK BELOW LANGLEY POND AT S-02-254
SV-724	BIO	FW	LITTLE HORSE CREEK AT S-02-104
SV-073	S	FW	LITTLE HORSE CREEK AT SC 421, BELOW EFFL. OF CLEARWATER FINISHING
SV-072	S	FW	HORSE CREEK AT S-02-145
SV-250	P	FW	HORSE CREEK AT SC 125, 1.5MI SW CLEARWATER

Vaucluse Pond (CL-067)) – Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH. Although pH excursions occurred, they are typical of values seen in blackwater systems and are considered natural, not standards violations. Recreational uses are fully supported.

Flat Rock Pond (SV-686) - Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH. Although pH excursions occurred, they are typical of values seen in

blackwater systems and are considered natural, not standards violations. Recreational uses are fully supported.

Graniteville Pond #2 (SV-722) - Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH. Although pH excursions occurred, they are typical of values seen in blackwater systems and are considered natural, not standards violations. Recreational uses are fully supported.

Horse Creek – There are five monitoring sites along Horse Creek. Aquatic life uses are fully supported at the upstream site ***(SV-329);*** however, there is a significant increasing trend in total phosphorus concentration. This is a blackwater system, characterized by naturally low pH. Although pH excursions occurred, they are typical of values seen in blackwater systems and are considered natural, not standards violations. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are fully supported at this site; however, there is a significant increasing trend in fecal coliform bacteria concentration.

At the next site downstream ***(SV-071),*** aquatic life uses are not supported due to pH excursions. There is also a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are fully supported at this site and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Further downstream ***(SV-096),*** aquatic life uses are partially supported due to pH excursions. There is also a significant decreasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. In sediments, a high concentration of zinc was detected in the 1996 sample. P,P' DDT was detected in the 1996 sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. Recreational uses are fully supported at this site.

Aquatic life uses are fully supported at the next site downstream ***(SV-072)*** based on macroinvertebrate community data. This is a blackwater system, characterized by naturally low pH. Although pH excursions occurred, they are typical of values seen in blackwater systems and are considered natural, not standards violations. There is a significant decreasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. In sediments, high concentrations of chromium were detected in 1997 and 1999 samples and very high concentrations were detected in 1996 and 1998 samples. A very high concentration of mercury was also measured in the 1996 sample. P,P'DDE, a metabolite of DDT, was detected in the 1996 sediment sample. PCB 1254 was detected in the 1998 sediment sample. Although the manufacture and use of PCBs was banned in 1979, they are very persistent in the environment. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions.

At the furthest downstream site ***(SV-250)***, aquatic life uses are not supported due to pH excursions, and compounded by a significant decreasing trend in pH. In sediments, a high concentration

of chromium was measured in the 1996 sample and a very high concentration was measured in the 1999 sample. Also, a very high concentration of mercury was measured in the 1996 sample and a high concentration of mercury was measured in the 1999 sample. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions. In addition, there is a significant increasing trend in fecal coliform bacteria concentration.

Sand River (SV-069) – Aquatic life uses are fully supported based on macroinvertebrate community data. This is a blackwater system, characterized by naturally low pH. Although pH excursions occurred, they are typical of values seen in blackwater systems and are considered natural, not standards violations. Significant decreasing trends in turbidity and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are fully supported.

Langley Pond (CL-069) - Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH. Although pH excursions occurred, they are typical of values seen in blackwater systems and are considered natural, not standards violations. Recreational uses are fully supported.

Little Horse Creek (SV-073)) - There are two monitoring sites along Little Horse Creek. Aquatic life uses are fully supported at the upstream site ***(SV-724)*** based on macroinvertebrate community data. At the downstream site ***(SV-073),*** aquatic life uses are partially supported due to pH excursions. This is compounded by a significant decreasing trend in pH. A significant increasing trend in dissolved oxygen concentration and a significant decreasing trend in five-day biochemical oxygen demand suggest improving conditions for these parameters. Endosulfan sulfate was detected in the 1996 sediment sample, and PCB 1254 was detected in the 1999 sample. Although the manufacture and use of PCBs was banned in 1979, they are very persistent in the environment. Recreational uses are fully supported at this site.

A fish consumption advisory has been issued by the Department for mercury and includes Langley Pond and Vaucluse Pond within this watershed (see advisory p.107).

Natural Swimming Areas

FACILITY NAME	***PERMIT #***
RECEIVING STREAM	***STATUS***
OUTING CLUB	02-N14
BRIDGE CREEK	ACTIVE
GREFF PARK	02-N07
BRIDGE CREEK	ACTIVE
LANGLEY POND PARK	02-1002N
LANGLEY POND	ACTIVE

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-027	GB	MIDDENDORF	NORTH AUGUSTA

All water samples collected from ambient monitoring well ***AMB-027*** met standards for Class GB groundwater.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM / ***FACILITY NAME*** / ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** / ***TYPE*** / ***COMMENT***
HORSE CREEK AIR PRODUCTS POLYMERS, LP PIPE #: 001 FLOW: 4.75	SC0039730 MINOR INDUSTRIAL
HORSE CREEK AVONDALE MILLS WTP PIPE #: 001 FLOW: 0.096	SCG641001 MINOR INDUSTRIAL
HORSE CREEK GREEN ACRES MHP PIPE #: 001 FLOW: 0.017	SC0032638 MINOR DOMESTIC
HORSE CREEK TRIBUTARY KENTUCKY-TENN CLAY/CONGER PLT PIPE #: 001 FLOW: 0.021	SC0040096 MINOR INDUSTRIAL
HORSE CREEK TRIBUTARY KENTUCKY-TENN CLAY/PARAGON MINE PIPE #: 001 FLOW: 0.015	SCG730387 MINOR INDUSTRIAL
HORSE CREEK FOSTER DIXIANA/AUGUSTA PLT PIPE #: 001 FLOW: M/R	SC0027529 MINOR INDUSTRIAL
LITTLE HORSE CREEK MARTIN MARIETTA/AIKEN QUARRY PIPE #: 001 FLOW: 1.44	SCG730221 MINOR INDUSTRIAL
FRANKLIN BRANCH CHARTER-TRIAD TERMINALS, LLC PIPE #: 001 FLOW: M/R	SCG340016 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME / ***FACILITY TYPE***	***PERMIT #*** / ***STATUS***
GL WILLIAMS C&D LANDFILL C & D	022481-1201 ACTIVE
RAINBOW FALLS RD C&D LANDFILL C & D	---------- ACTIVE

VALCLUSE DUMP DOMESTIC	---------- INACTIVE
CYPRESS INDUSTRIAL MINERAL INDUSTRIAL	IWP-111 INACTIVE
AIKEN COUTNY CELLULOSIC CONSTR. LANDFILL C & D	021001-1202 (CWP-038) ACTIVE
JM HUBER CORPORATION DOMESTIC	021001-1201 (CWP-014) INACTIVE
AIKEN COUNTY LANGLEY LANDFILL DOMESTIC	DWP-123; DWP-066; 021001-1103 DWP-056; 021001-1104; DWP-097 INACTIVE
CARLINE ROAD DUMP DOMESTIC	---------- INACTIVE
AIKEN COUNTY PSA INDUSTRIAL	(IWP-161) SCD980842454 INACTIVE
AUGUSTA/N. AUGUSTA MATERIAL RECOVERY DOMESTIC	021003-2001 ACTIVE
CITY OF NORTH AUGUSTA DUMP DOMESTIC	SCD980844146 INACTIVE
HR GARRET INC. C & D	022458-1701 INACTIVE
KIMBERLY-CLARK BEECH ISLAND MILL INDUSTRIAL	IWP-106 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
MABUS BROTHERS CONSTR. CO. CHAMBERS MINE	1403-03 SAND
WILLIAMS & SON TRUCKING HILLTOP MINE	0720-03 SAND
WILLIAMS SAND & GRAVEL CO. RAINBOW FALLS PIT	0702-03 SAND
DIXIE CLAY CO. PARDUE MINE	0451-03 KAOLIN
SATTERFIELD CONSTRUCTION TIMMERMAN SAND PIT	0230-03 SAND

KENTUCKY-TENN CLAY CO. CONGER MINE	0037-03 KAOLIN
WILLIAMS & SON TRUCKING HWY 421 NO. 2 MINE	1041-03 SAND; SAND/CLAY
DAVIS AGGREGATES CORP. CLEARWATER BELVEDERE MINE	0862-03 SAND; SAND/CLAY
CITY OF NORTH AUGUSTA CITY OF NORTH AUGUSTA CLAY PIT	0988-03 SAND; SAND/CLAY
WERTS EQUIPMENT RENTAL, INC. WERTS DRIVE IN	0949-03 SAND/CLAY
FOSTER DIXIANA CORP. CLEARWATER MINE	0006-03 SAND
MUNDYS CONSTRUCTION, INC. MUNDY BORROW PIT	1155-03 SAND; SAND/CLAY
DIXIE CLAY CO. MCNAMEE MINE	0073-03 KAOLIN
AIKEN COUNTY PUBLIC WORKS IDEAL MINE	0036-03 KAOLIN
KENTUCKY-TENN CLAY CO. PARAGON MINE	0034-03 KAOLIN

Water Quantity

WATER USER ***STREAM***	***TOTAL PUMP. CAPACITY (MGD)*** ***RATED PUMP. CAPACITY (MGD)***
GRANITEVILLE CO. FLAT ROCK POND/HORSE CREEK	2.0 2.0

Growth Potential

There is a moderate potential for growth in this watershed, which contains portions of the Cities of Aiken and North Augusta. The City of Aiken is experiencing growth in a southwesterly direction toward the Savannah River Site. Growth is predominately residential; numerous subdivisions are being developed. Commercial centers are also being constructed in conjunction with the population growth and residential development. Aiken has the permit for expansion of Aiken County's Horse Creek Treatment Plant to handle potential growth.

S.C. Hwys 19 (towards New Ellenton and SRS) and 302 (towards Augusta and SRS) are the major commercial corridors serving the residential communities. Growth is expected to continue south

and southwest instead of in previously established areas. Industrial growth is expected to occur along S.C. 19 to New Ellenton and west towards North Augusta, along the Horse Creek drainage.